

TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

SUBJECT: U.S. Equity Benchmark Task Force -
Study of U.S. Equity Indices

ITEM NUMBER: 9

ATTACHMENT(S): 1

ACTION:

DATE OF MEETING: April 3, 2002

INFORMATION: X

PRESENTER(S): Steven Tong

Executive Summary

A mandate for the Investment Branch in year 2001-2002 is to complete an examination of the various benchmarks that are available to track the performance of the broad U.S. equity market. The objective of the review is to either reaffirm the S&P 500 Index and Russell Small Cap Completeness Index (both ex-Tobacco) or possibly select a new benchmark for the CalSTRS' domestic equity asset class. In combination, these two indices approximate, but do not completely match the Russell 3000 Index. Given the relatively high proportional allocation to domestic equities, choosing the appropriate benchmark is critical. The benchmark will function as a yardstick for measuring the performance of the domestic equity asset class.

In March 2002, staff presented the Board with a historical overview of CalSTRS' usage of benchmarks. Also, staff identified the broader indices that are available to measure the risk and return characteristics of the overall U.S. equity market. This report continues with the study of the major benchmarks that represent the overall U.S. equity market. This report will compare the differences between the various broad U.S. equity benchmarks. More specifically, it will include a comparison of the indices construction rules, objectiveness, investability, and transparency. In addition, the report will examine benchmark characteristics including asset class representativeness, turnover, and performance efficiency. The overall objective is to evaluate each benchmark in terms of their qualities for performance measurement as well as a passive investment process.

CalSTRS will use the selected benchmark to:

1. Create proper performance standards against which active managers as well as the total domestic equity portfolio can be evaluated.
2. Create a purchasable and replicable vehicle for passive investment.

At the next Investment Committee meeting, a final presentation will be made to assist the Board as to the decision of which benchmark would be appropriate for CalSTRS.

Major U.S. Equity Market Benchmarks

There is an on-going competition between the index vendors (e.g., Dow Jones, Frank Russell, and Standard & Poor's) to become the primary provider of U.S. equity benchmarks for investors. These index providers have very different paradigms to represent the US equity universe. The results are different U.S. indices with distinctly different profiles.

Description of the Major U.S. Equity Market Benchmarks

Major indexes that purport to measure the U.S. equity market include Dow Jones U.S. Total Market, Russell 3000, and S&P 1500.

Dow Jones U.S. Total Market

The Dow Jones Total Market Index is designed to represent 95% of the total market capitalization of investable stocks in the U.S. The 95% level maintains a consistent approach over time and accounts for changes in market size. The index is rebalanced quarterly and is maintained through an objective, rule-based screening process. The index was launched in February 2000.

Russell 3000 Index

The Russell 3000 Index consists of the 3,000 largest U.S. companies, which represents approximately 98% of the investable U.S. equity market. Only common stocks of U.S. companies are included in the index. Frank Russell Co. uses total market value when sorting the universe of investable securities to determine the constituents for the index. In order to include only the investable portion of each security, the shares outstanding are adjusted for large private holdings and cross-ownership. At the annual rebalance on June 30, each security is ranked by total market capitalization but weighted to the proportion available for investor purchase. A security that leaves the index for any reason during the year is not replaced until the next annual reconstitution. The index was launched in 1984.

S&P 1500 Index

The S&P 1500 Index was created in response to market interest in the total U.S. market. Standard & Poor's has long managed the S&P 500 as a total market index, but as market depth grew and liquidity increased, Standard & Poor's recognized the need for wider coverage. In 1991, Standard & Poor's introduced the S&P MidCap 400 to cover an entirely new segment of the market, known as Midcaps. Later in 1994, the S&P SmallCap 600 was created in response to demand for a better, more liquid and investable small cap index. It became clear that the three indices represented the total US market and a

year later the S&P 1500 was launched. The index is the combination of the S&P 500, S&P MidCap 400 and S&P SmallCap 600 according to the market capitalization of the 1500 constituents.

The S&P 1500 Index includes a fixed number of liquid investable stocks. The index is managed by a committee to replicate the U.S. equity markets and the U.S. economy. Standard & Poor's has been managing equity indices since the introduction of the S&P Composite in 1923. Since then the S&P 500 has become the single most tracked index in the world with over \$1 trillion in assets utilizing it as a benchmark.

Evaluation of the Major Domestic Equity Benchmarks

In order to properly compare the broad U.S. equity market benchmarks, it is necessary to establish specific evaluation criteria. Although each benchmark purports to represent the broad U.S. equity market, each benchmark possesses unique characteristics. The following criteria will be used to evaluate the Dow Jones U.S. Total Market Index, Russell 3000 Index, and S&P 1500 Index:

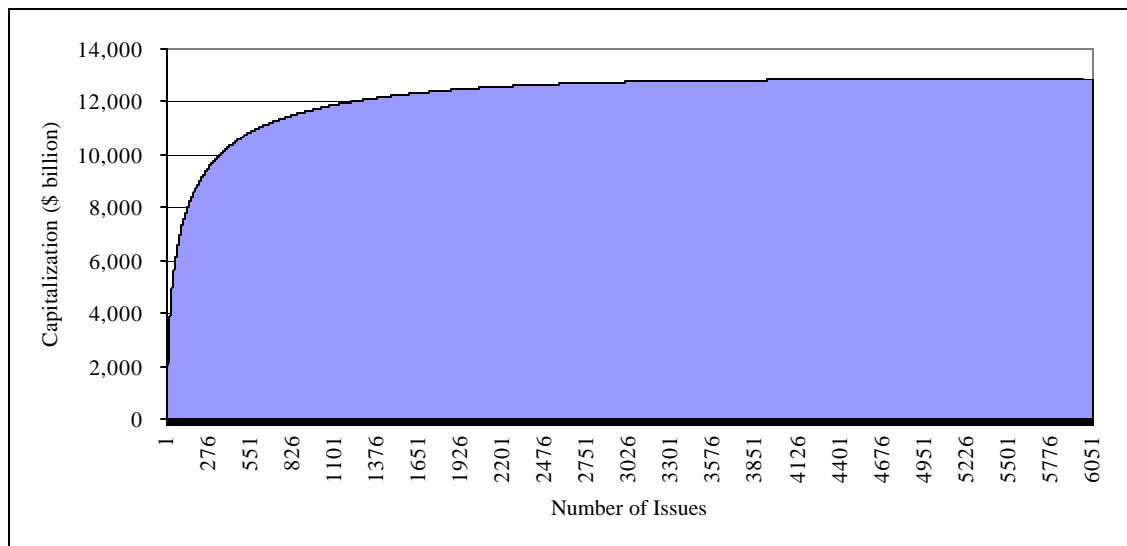
- Breadth
- Market Capitalization
- Domicile Issues
- Transparency

The above criteria focus on the validity of being a benchmark for the U.S. equity market.

Breadth

The breadth, which is how much of the investment opportunity set is covered by the benchmark, differs for each index. From a theoretical standpoint, the ideal benchmark should include every security in its asset class. At year-end 2001, the total stocks traded on the New York Stock Exchange, American Stock Exchange and Nasdaq consisted of over 7,900 securities. After excluding companies that would not be considered eligible by index vendors (e.g. non-domiciled U.S. companies, preferred stocks), the U.S. equity market would contain approximately 6000± stocks. Exhibit 1 below shows that a significant portion (90%+) of the total U.S. equity market value is concentrated in the 1,000 largest names.

Exhibit 1: Market Capitalization U.S. Equity Market



The U.S. stock market contains a significant number of smaller stocks that are illiquid, so that institutional investors would experience a difficult time if they had to trade them. For this reason, an index that excludes these illiquid names is desirable as a benchmark for the U.S. equity market. Investment experts agree that a less broad, but more liquid index is more desirable and useful.

There is a dramatic difference in the number of constituents for each index. The Russell 3000 Index has broader market coverage than the Dow Jones U.S. Total Market Index or the S&P 1500 Index. As of December 31, 2001, these indices contained 2,906, 1,677, and 1500 securities, respectively. Although the Dow Jones U.S. Total Market Index and the S&P 1500 Index contains about half the number of companies than the Russell 3000 Index, all three indices provide broad market exposure and cover 90% or more of the relevant investment opportunity set.

Market Capitalization

A widely accepted model of asset pricing supports a capitalization weighted market index. In addition, the broad U.S. equity benchmarks should comprise of a wide range of capitalization stocks in order for the indices to be as fully representative as possible of the universe. The benchmarks considered in this study provide similar market capitalization coverage. According to Frank Russell, the largest public company in the U.S. investable universe is General Electric with a capitalization of \$398.1 billion as of December 31, 2001. The smallest public company is Heartland Technology, Inc., which has a capitalization of \$167,000.

There are two methodologies utilized by index vendors for weighting a benchmark. The first method is full capitalization weighting. Index constituents are included at full market capitalization weight (a company's total shares outstanding multiplied by its market price). This weight is defined as the ratio of the constituent's full market capitalization divided by the sum of the market capitalization of all the index constituents in the index. The Standard & Poor's currently utilizes this methodology for construction of their S&P 1500 Index.

The second method is float weighting. This methodology is utilized by the majority of index vendors in construction of their respective broad market indexes. Float weighting is similar to market capitalization weighting. The major difference is that float weighting subtracts out shares that are closely held or cross-held by other public companies.

The index vendors (e.g., Dow Jones, Frank Russell) which choose to make this adjustment maintain that the "float" adjustment makes an index a better benchmark because float adjustment better represents the opportunity set available to investors in public securities. The two approaches yield differences in the relative stock weightings in one index versus another. In Exhibit 2 below, the top ten holdings of the Dow Jones U.S. Total Market Index, Russell 3000 Index and S&P 1500 Index are ranked. As of December 31, 2001, the fifth largest stock in the S&P 1500 Index is Wal-Mart Stores. Under the free-float methodology or what is available to investors, Wal-Mart Stores would be the tenth largest company.

Exhibit 2: Full Market Cap Weighting vs. Float Market Cap Weighting

Dow Jones U.S. Total Market Index		Russell 3000 Index		S&P 1500 Index	
Company	Weight	Company	Weight	Company	Weight
General Electric	3.47%	General Electric	3.48%	General Electric	3.40%
Microsoft Corp.	2.66%	Microsoft Corp.	2.53%	Microsoft Corp.	3.05%
Exxon Mobil Corp.	2.34%	Exxon Mobil Corp.	2.35%	Exxon Mobil Corp.	2.30%
Citigroup Inc.	2.27%	Citigroup Inc.	2.27%	Citigroup Inc.	2.22%
Pfizer Inc.	2.19%	Pfizer Inc.	2.19%	Wal-Mart Stores Inc.	2.19%
Intel Corp.	1.84%	Intel Corp.	1.85%	Pfizer Inc.	2.14%
IBM	1.81%	IBM	1.82%	Intel Corp.	1.81%
American Int'l Group	1.80%	American Int'l Group	1.59%	IBM	1.78%
Johnson & Johnson	1.58%	Johnson & Johnson	1.59%	American Int'l Group	1.77%
Wal-Mart Stores Inc.	1.38%	Wal-Mart Stores Inc.	1.39%	Johnson & Johnson	1.55%

Source: Dow Jones & Co.

The largest stocks in an index have the most impact on its performance. Thus, if the top 50 stocks comprise 50% of the index, then 50% of the index's return will be determined by the return of these

stocks. A detailed comparison of market capitalization differences between the Dow Jones U.S. Total Market Index, Russell 3000 Index, and S&P 1500 Index is displayed in the Exhibits 3a and 3b below.

Exhibit 3a: Size of Each Market Capitalization Range as of December 31, 2001

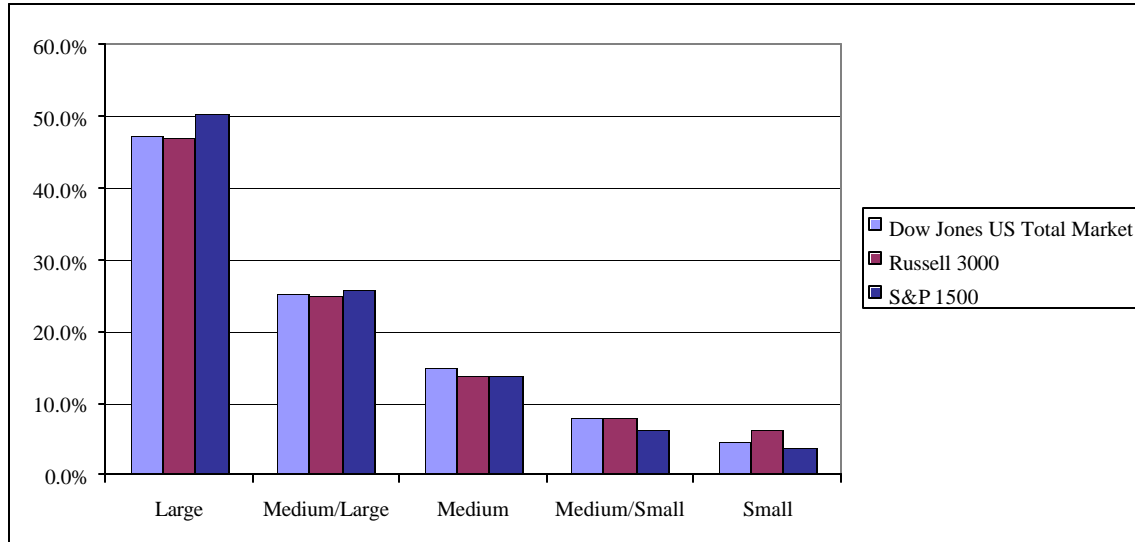
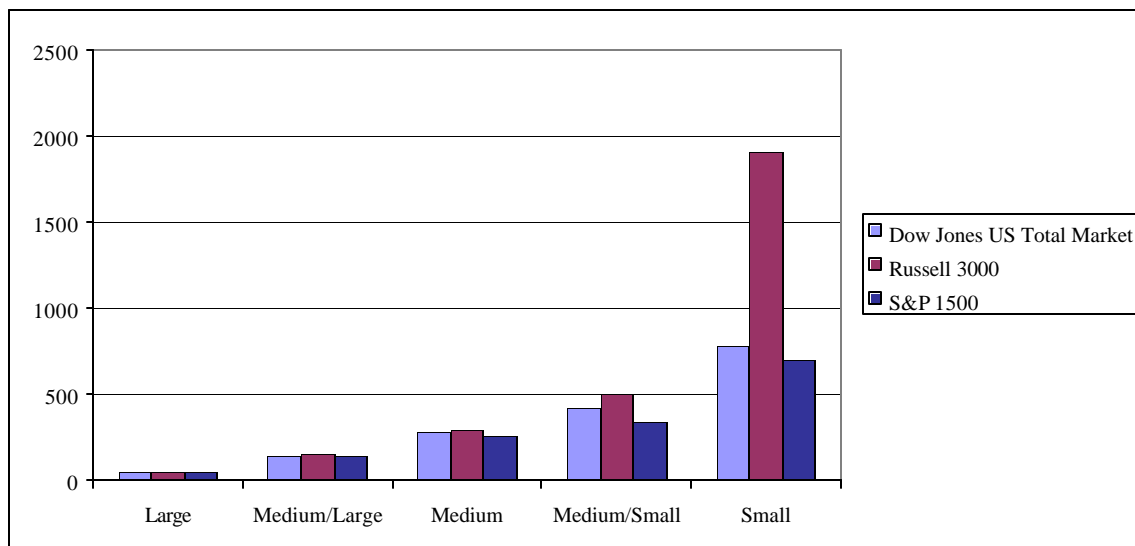


Exhibit 3b: Number of Stocks in Each Market Capitalization Range as of December 31, 2001



Large Capitalization: (\$42.24 million & above)
Medium/Large Capitalization (\$10.60 million - \$42.24 million)
Medium Capitalization (\$3.47 million - \$10.60 million)
Medium/Small Capitalization (\$1.35 million - \$3.47 million)
Small Capitalization (\$1.35 million & below)

In the Dow Jones U.S. Total Market Index, Russell 3000 Index, and the S&P 1500 Index, the top 200 names represent approximately 75% of the index. Further, the top 900-1000 names represent approximately 95% of the index. Therefore, the additional 500-2000 names have marginal contribution to the risk and return characteristics of the indices.

Domicile Issues

The Dow Jones U.S. Total Market Index and Russell 3000 Index contains only those securities domiciled in the United States. As of December 31, 2001, the S&P 1500 Index contains eleven companies incorporated outside the US, representing 3.13% of the total market capitalization. Therefore, the S&P 1500 Index is not a pure U.S.-only broad equity market index. Of the eleven companies, two issues comprise 1.90%, Royal Dutch Petroleum (0.89%) and Tyco International (1.01%).

Transparency

Transparency of construction is an important consideration in the selection of a benchmark. It is important that any conflict of interest (real or apparent) is minimized so investors have confidence that index vendors have created benchmarks that are accurate and unbiased representations of the investment opportunity set (e.g., U.S. equity market).

Dow Jones U.S. Total Market Index and Russell 3000 Index are rule-based indices. The inclusion criteria and weighting methodology tend to be more transparent for rule-based indices. On the other hand, Standard and Poor's utilizes a committee-based approach that has significant discretion in the construction on the S&P 1500 Index. As a result, Standard and Poor's assumes a more active role and utilizes more subjective and, therefore, marginally less transparent judgment in maintaining the S&P 1500 Index with additions and deletions. The selection process follows quantitative screening with detailed fundamental analysis. Standard and Poor's asserts that their competitor's index construction methodologies ignores liquidity and constituent quality issues.

Benchmark Construction and Characteristics

There are other issues to consider in the evaluation process of each of the broad U.S. equity market indices. They are as follows:

- Economic Sector Diversification
- Historical Return and Risk
- Turnover

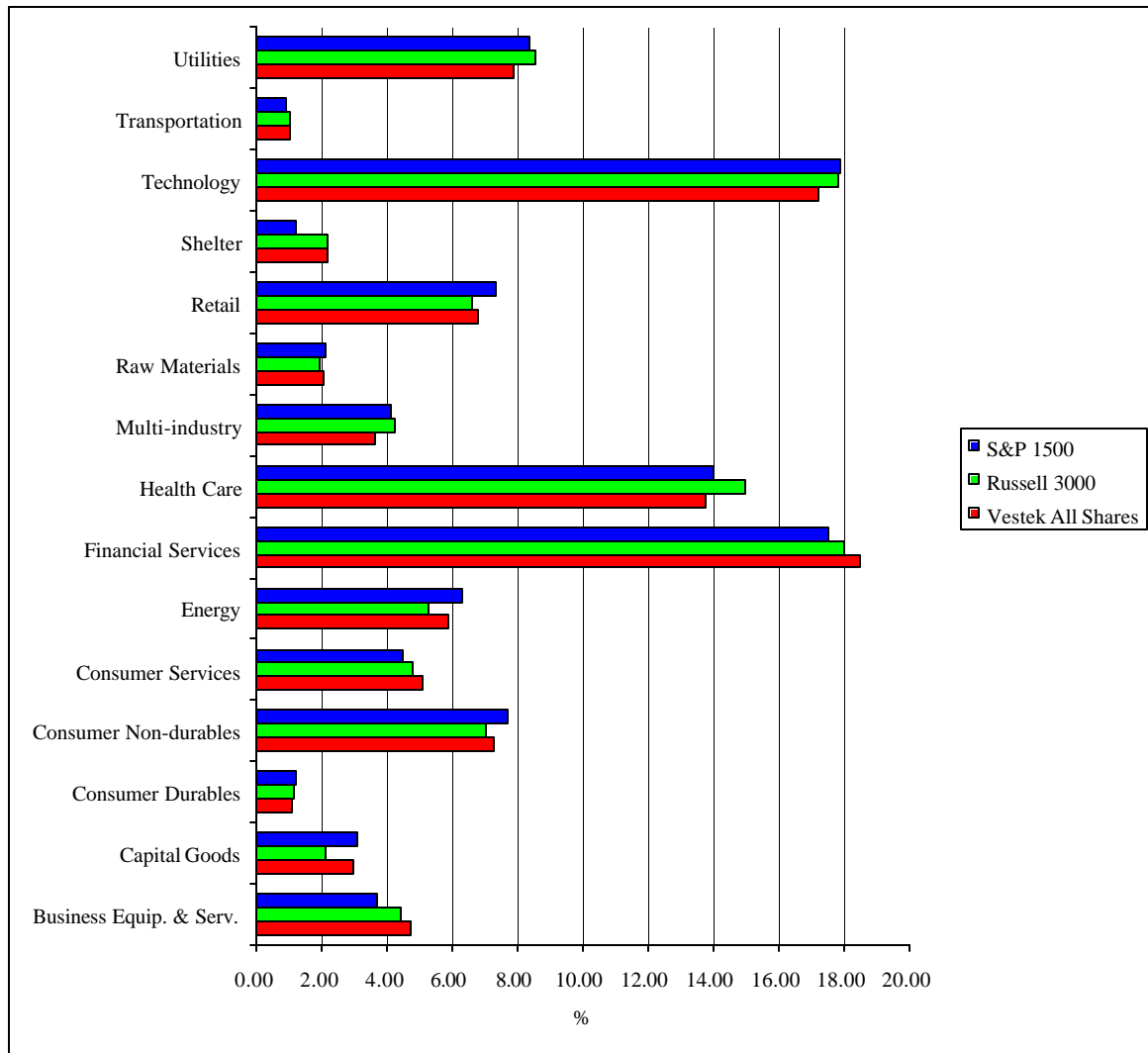
The first issue measures how accurate each benchmark reflects the industries and sectors of the stock market. The next issue is performance and provides an indication of how well each benchmark represents the return of the equity market as a whole. Finally, the last issue is turnover.

Economic Sector Diversification

An index that purports to be a U.S. broad market benchmark should have sector weightings that approximate the total U.S. equity market as a whole. The differences between the various indexes are reflected not only in the size (capitalization) of companies but also in the economic distribution of the constituents.

Exhibit 4 below compares the sector distribution of the Vestek All Shares Index, which is a proxy for the total U.S. equity market, with those of the S&P 1500 Index and Russell 3000 Index. The largest sectors for the indices are financial services (17%+) and technology (18%±). The Russell 3000 Index was closer to that of the Vestek All Shares Index in nine of the fifteen economic sectors. The most notable differences in the sector weights are: (i) the higher proportion of health care stocks (by 1.23%) in the Russell 3000 Index, (ii) the lower proportion of business equipment and services (by 1.04%), financial services (by 1.00%), and shelter companies (by 0.95%) in the S&P 1500 Index.

Exhibit 4: Comparison of Economic Sector Weightings Among U.S. Equity Benchmarks



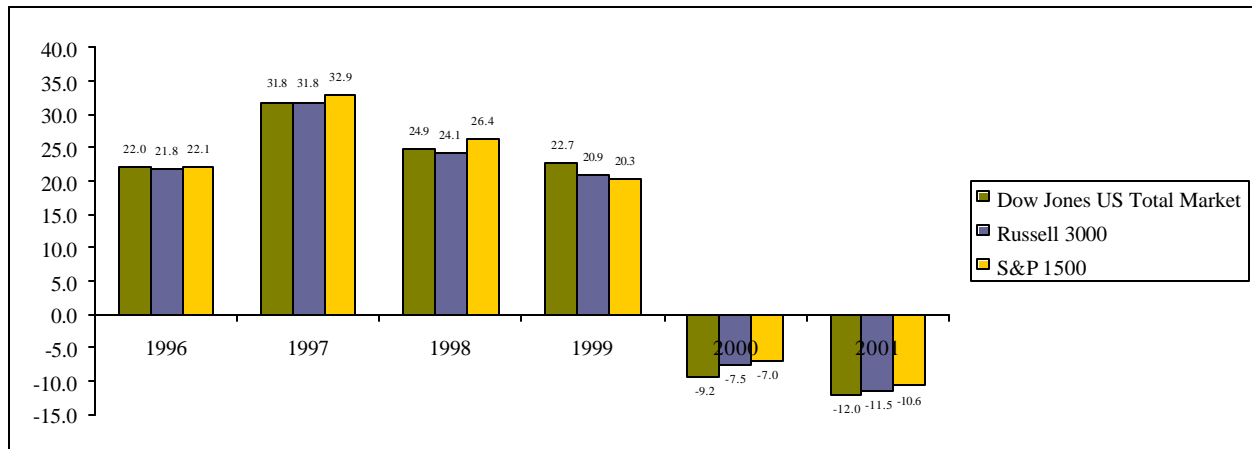
Source: Vestek Systems, Inc.

Note: Dow Jones U.S. Total Market Index data not available for analysis

Historical Return and Risk

A comparison of the monthly total returns for the Dow Jones U.S. Total Market Index, Russell 3000 Index, and S&P 1500 Index was made for each calendar year since 1996. Exhibit 5 below shows the performance for the past six years.

Exhibit 5: Total Investment Returns (%) December 31, 1995-December 31, 2001



Dow Jones U.S. Total Market Index was launched in February 2000. Prior performance history is back tested.

Exhibit 7 in the Appendix shows the historical rates of return for the past twenty years, shorter if the index had a briefer life span. The Dow Jones U.S. Total Market Index, Russell 3000 Index, and S&P 1500 Index are very highly correlated. At a five-year correlation of 0.993 and higher, there is little difference between the three broad U.S. equity market indices.

The annualized standard deviation (a measure of risk) was calculated over a ten-year period ending December 31, 2001 and sub-periods of 3 and 5 years. Exhibit 7 in the Appendix contains the results of the standard deviations between 3 and 10 years. Over the past five years, the S&P 1500 Index experienced the lowest volatility while the Dow Jones U.S. Total Market Index had the highest volatility. The S&P 1500's five year annualized standard deviation was 17.85%, which is 0.16% and 0.64% less than the Russell 3000 Index and Dow Jones U.S. Total Market Index, respectively. The difference is not considered material.

Over the five-year period (1997-2001), the S&P 1500 Index provided a slightly (i) higher total rate of return and (ii) lower risk (standard deviation of returns) and therefore exhibited the highest Sharpe ratio. However, past performance is not conclusive evidence. It is anticipated that risk and return characteristics of the major broad market U.S. indices should not vary materially in future years.

Turnover

An index's turnover is a function of the size and quantity of companies "taken over" during the course of the year. The costs associated with turnover are a combination of commissions and the market impact relating to trading these securities in an index portfolio to keep updated with changes occurring in the

benchmark. Such costs could have marginal impact on index portfolio performance versus the benchmark that it is supposed to match. Exhibit 6 below compares the turnover from last year of the Russell 3000 Index and S&P 1500 Index.

Exhibit 6: Russell 3000 Versus S&P 1500 Turnover

Index	Rebalance Date	Added Constituents	Deleted Constituents	Cap Weighted Turnover
Russell 3000	June 28, 2001	527	291	6.30%
S&P 1500	July 1, 2000- June 30, 2001	176	176	6.47%

Source: Standard and Poor's

A comparison of turnover illustrates that Frank Russell and Standard and Poor's seek to minimize turnover in their respective index. However, the turnover for the Russell 3000 Index due to the annual rebalancing is almost equivalent to an entire year's worth of turnover for the S&P 1500 Index.

Other Characteristics

Each of the broad market indices has similar distributions and characteristics across many variables. Exhibit 8 in the Appendix contains further details.

Appendix

Exhibit 7: Performance Summary as December 31, 2001

	Dow Jones U.S. Total Market Index	Russell 3000 Index	S&P 1500 Index
Total Return			
2001	-11.96	-11.46	-10.64
2000	-9.23	-7.46	-6.98
1999	22.72	20.89	20.27
1998	24.90	24.14	26.35
1997	31.81	31.78	32.94
1996	22.02	21.82	22.11
1995	36.62	36.81	-
1994	0.21	0.18	-
1993	9.78	10.87	-
1992	8.74	9.68	-
1991	-	33.66	-
1990	-	-5.06	-
1989	-	29.32	-
1988	-	17.82	-
1987	-	1.94	-
1986	-	16.71	-
1985	-	32.16	-
1984	-	3.39	-
1983	-	22.74	-
1982	-	20.74	-
1981	-	-4.43	-
1980	-	32.51	-
1979	-	24.11	-
Annualized Return			
3 Years	-0.65	-0.32	-0.01
5 Years	10.06	10.14	10.92
10 Years	12.40	12.65	-
Standard Deviation			
3 Years	17.81	17.12	16.78
5 Years	18.49	18.01	17.85
10 Years	14.38	14.08	-
Sharpe Ratio			
3 Years	-0.31	-0.31	-0.29
5 Years	0.27	0.28	0.33
10 Years	0.54	0.57	-

Source: Dow Jones & Co., Style Advisor (Zephyr Associates)

Dow Jones U.S. Total Market Index was launched in February 2000. Prior performance history was back tested.

Exhibit 8: Fundamental Characteristics as of December 31, 2001

	Dow Jones U.S. Total Market Index	Russell 3000 Index	S&P 1500 Index
P/E	20.6	29.5	28.9
Price/Book	3.53	3.39	3.41
Price/Sales	1.46	1.72	1.47
Price/Cash Flow	15.43	n/a	n/a
Debt/Capital (%)	n/a	1.1	1.05
Return on Equity (%)	18.1%	23%	12.2%
Return on Assets (%)	9.3%	n/a	2.3%
Dividend Payout Ratio (%)	31.9%	28.8%	39%

Exhibit 9: Benchmark Modules

In 1997, the Board reaffirmed a modular approach in constructing the active and passive segments of the domestic equity asset class. The Board adopted a portfolio structure whereby 20% of the allocation to domestic equity should be placed in “active” mandates and the remaining 80% in “passive” mandates. As mentioned earlier, the S&P 500 Index and Russell Small Cap Completeness Index (both ex-Tobacco) are the policy modules for the U.S. equity asset class.

All of the U.S. broad indices can be classified into subgroups by size and style. The investor can use the subgroups as a benchmark for active investing or as a basis for a passive portfolio. Additionally, investors are able to tilt their allocations to either of size or style categories. The risk and return characteristics of each size and style sub-indices are critical inputs to the strategic asset allocation process. It is generally desirable for the sub-indices to sum to the overall index. The chart below contains a list of size and style indices for each U.S. broad market index.

Sub-Index Structure

Broad Market Index	Capitalization Modules	Style Modules
Dow Jones U.S. Total Market	Large Cap, Mid-Cap, Small Cap	Large Cap Growth, Large Cap Value, Mid-Cap Growth, Mid-Cap Value, Small Cap Growth, Small Cap Value
Russell 3000	Top 1000, Bottom 2000 Or Top 200, Mid-Cap, Bottom 2000 Or S&P 500, Small Cap Completeness ^a	3000 Growth, 3000 Value Or 1000 Growth, 1000 Value, 2000 Growth, 2000 Value Or

		Top 200 Growth, Top 200 Value, Mid-Cap Growth, Mid-Cap Value, 2000 Growth, 2000 Value Or S&P/Barra Growth (500), S&P/Barra Value (500), Small Cap Completeness Growth, Small Cap Completeness Value ^a
S&P 1500	S&P 500, S&P MidCap 400, S&P SmallCap 600	S&P/Barra Growth (500), S&P/Barra Value (500), S&P/Barra Growth (400), S&P/Barra Value (400), S&P/Barra Growth (600), and S&P/Barra Value (600)

^a In combination, the indices approximate, but do not completely match the Russell 3000 Index. S&P 500 contains eleven non-domiciled and/or incorporated names that are not included in the Russell 3000 Index.

Description of Indices

Dow Jones U.S. Indices

Dow Jones U.S. Total Market Index

The Dow Jones U.S. Total Market Index consists of U.S. companies in the top 95% of the investable U.S. equity market.

Dow Jones U.S. Large Cap Index

The Dow Jones U.S. Large Cap Index consists of U.S. companies in the top 70% of the investable U.S. equity market.

Dow Jones U.S. Mid Cap Index

The Dow Jones U.S. Mid Cap Index consists of U.S. companies in the next 20% of the investable U.S. equity market.

Dow Jones U.S. Small Cap Index

The Dow Jones U.S. Small Cap Index consists of U.S. companies in the next 5% of the investable U.S. equity market, skipping stocks that fall within the bottom 1% of the universe.

Russell U.S. Indices

Russell 3000 Index

The Russell 3000 Index consists of the 3,000 largest U.S. companies by market capitalization, which represents approximately 98% of the investable U.S. equity market.

Russell 1000 Index

The Russell 1000 Index consists of the 1,000 largest companies in the Russell 3000 Index and represents approximately 92% of the total market capitalization of the Russell 3000 Index.

Russell 2000 Index

The Russell 2000 Index consists of the 2,000 smallest companies in the Russell 3000 Index and represents approximately 8% of the total market capitalization of the Russell 3000 Index.

Russell Top 200 Index

The Russell Top 200 Index consists of the 200 largest companies in the Russell 1000 Index and represents approximately 75% of the total market capitalization of the Russell 1000 Index.

Russell Mid Cap Index

The Russell Mid Cap Index consists of the 800 smallest companies in the Russell 1000 Index and represents approximately 25% of the total market capitalization of the Russell 1000 Index.

Russell Small Cap Completeness Index

The Russell Small Cap Completeness Index consists of the companies in the Russell 3000 Index and excludes names in the S&P 500 Index. The Russell Small Cap Completeness Index represents approximately 15% of the total market capitalization of the Russell 3000 Index.

Russell Growth and Value Classification

Russell classifies roughly 70 percent of stocks for each Russell Index as either all growth or all value and the other 30 percent of stocks as both growth and value based on adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates. Stocks categorized as both growth and value are held in both indices with a weight corresponding to their probability.

Russell 3000 Growth Index

The Russell 3000 Growth Index consists of companies in the Russell 3000 Index companies that have relatively high adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell 3000 Index stocks.

Russell 3000 Value Index

The Russell 3000 Value Index consists of companies in the Russell 3000 Index companies that have relatively low adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell 3000 Index stocks.

Russell 2000 Growth Index

The Russell 2000 Growth Index consists of companies in the Russell 2000 Index companies that have relatively high adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell 2000 Index stocks.

Russell 2000 Value Index

The Russell 2000 Value Index consists of companies in the Russell 2000 Index companies that have relatively low adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell 2000 Index stocks.

Russell Top 200 Growth Index

The Russell Top 200 Growth Index consists of companies in the Russell Top 200 Index companies that have relatively high adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell Top 200 Index stocks.

Russell Top 200 Value Index

The Russell Top 200 Value Index consists of companies in the Russell Top 200 Index companies that have relatively low adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell Top 200 Index stocks.

Russell Mid Cap Growth Index

The Russell Mid Cap Growth Index consists of companies in the Russell Mid Cap Index companies that have relatively high adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell Mid Cap Index stocks.

Russell Mid Cap Value Index

The Russell Mid Cap Value Index consists of companies in the Russell Mid Cap Index companies that have relatively low adjusted price-to-book ratios and I/B/E/S long-term forecast growth rates compared with other Russell Mid Cap Index stocks.

Standard & Poor's U.S. Indices

S&P 500 Index

The S&P 500 Index consists of 500 large capitalization companies from all U.S. economic sectors. Standard and Poor's indices exclude preferred stocks, rights, warrants, mutual funds, closed-end funds, foreign stocks, American Depositary Receipts (ADRs), stocks with no shares outstanding information, and stocks that have not traded in the past 30 days.

S&P 500/Barra Growth Index

The S&P 500/Barra Growth Index consists of stocks from the S&P 500 Index with the highest price-to-book ratios. It represents 50 percent of the market value of the S&P 500 Index.

S&P 500/Barra Value Index

The S&P 500/Barra Value Index consists of stocks from the S&P 500 Index with the lowest price-to-book ratios. It represents 50 percent of the market value of the S&P 500 Index.

S&P 400 Index

The S&P 400 MidCap Index consists of 400 medium-size companies.

S&P 400/Barra Growth Index

The S&P 400/Barra Growth Index consists of stocks from the S&P 400 Index with the highest price-to-book ratios. It represents 50 percent of the market value of the S&P 400 Index.

S&P 400/Barra Value Index

The S&P 400/Barra Value Index consists of stocks from the S&P 500 Index with the lowest price-to-book ratios. It represents 50 percent of the market value of the S&P 400 Index.

S&P 600 Index

The S&P 600 SmallCap Index consists of 600 small companies.

S&P 600/Barra Growth Index

The S&P 600/Barra Growth Index consists of stocks from the S&P 600 Index with the highest price-to-book ratios. It represents 50 percent of the market value of the S&P 600 Index.

S&P 600/Barra Value Index

The S&P 600/Barra Value Index consists of stocks from the S&P 500 Index with the lowest price-to-book ratios. It represents 50 percent of the market value of the S&P 600 Index.

Vestek Index

Vestek All Shares Index

The Vestek All Shares Index consists of more than 7,000 publicly traded U.S. equity securities and any non-U.S. stocks that are included in the S&P 500.

Glossary

Cap Sector

The U.S. equity securities are broken into groupings based on current market capitalization.

Correlation

Correlation measures the extent of linear association of two variables.

Debt/Capital

Proportion of long-term capital derived from long-term capital. A decrease in debt/capital means a lower financial risk to the company.

Dividend Yield

The amount achieved by dividing per share by price-per-share. Dividend yield is an indication of the income generated by a share of stock.

Earnings

Earnings per share is a function of the sales forecast and the estimated profit margin.

Float

Total shares outstanding of a company reduced by the number of shares determined to be unavailable for any number of reasons, such as private holdings.

Market Cap

Market capitalization shows how much a firm is worth. It is the amount achieved by multiplying the shares outstanding by the market price of a firm.

Price/Book

Ratio of stock price to company's book value. Companies with relatively high rates of return on equity generally sell at higher multiples of book value than those with low return.

Sharpe Ratio

A return/risk measured developed by William Sharpe. Return is defined as the incremental average return of an investment over the risk free rate. Risk is defined as the standard deviation of the investment returns.

Tracking Error

The difference between the portfolio and index returns.